

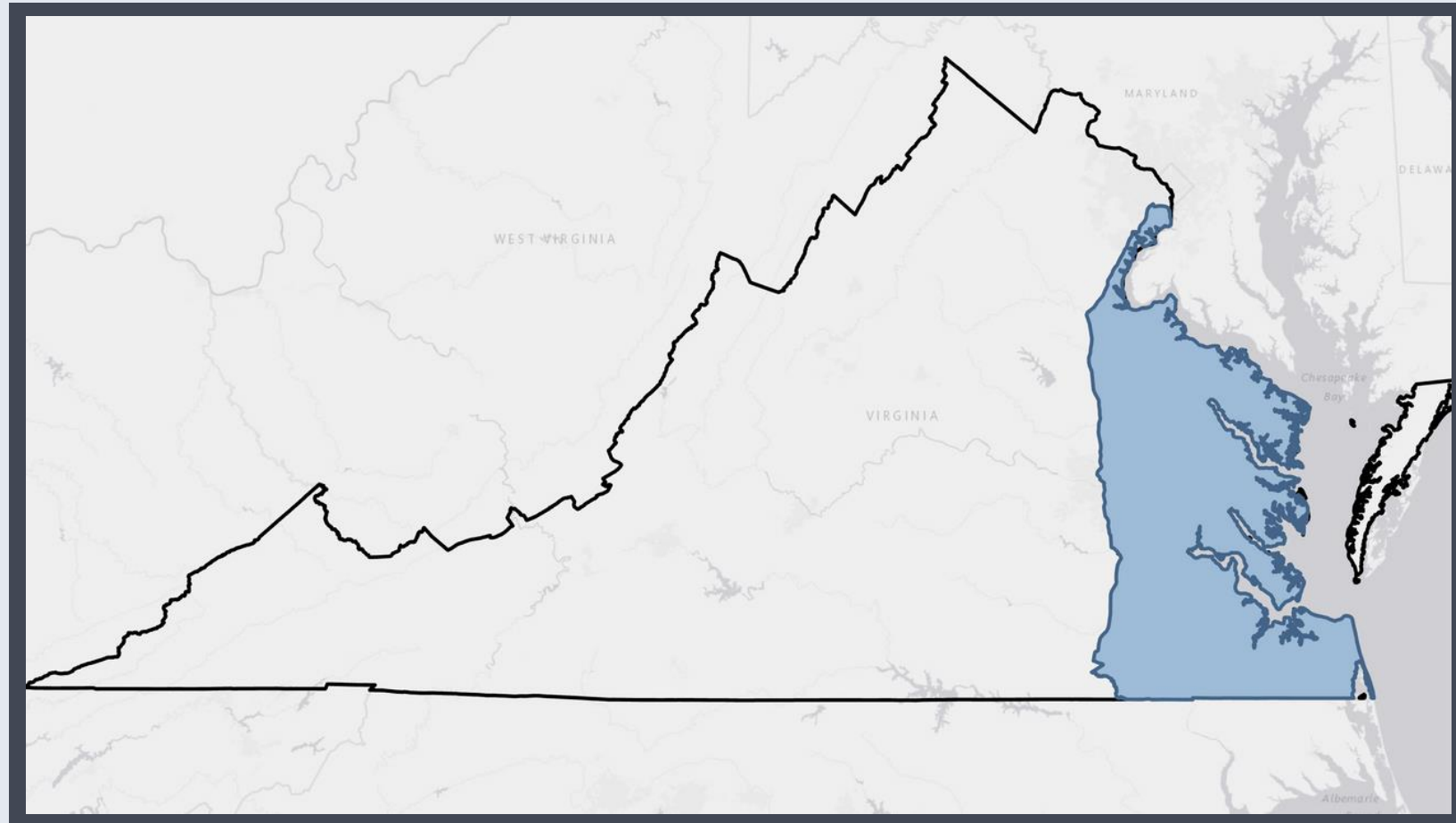
# REGIONAL GROUNDWATER MITIGATION PROGRAM

Hampton Roads Planning District Commission



# Eastern Virginia Groundwater Management Area

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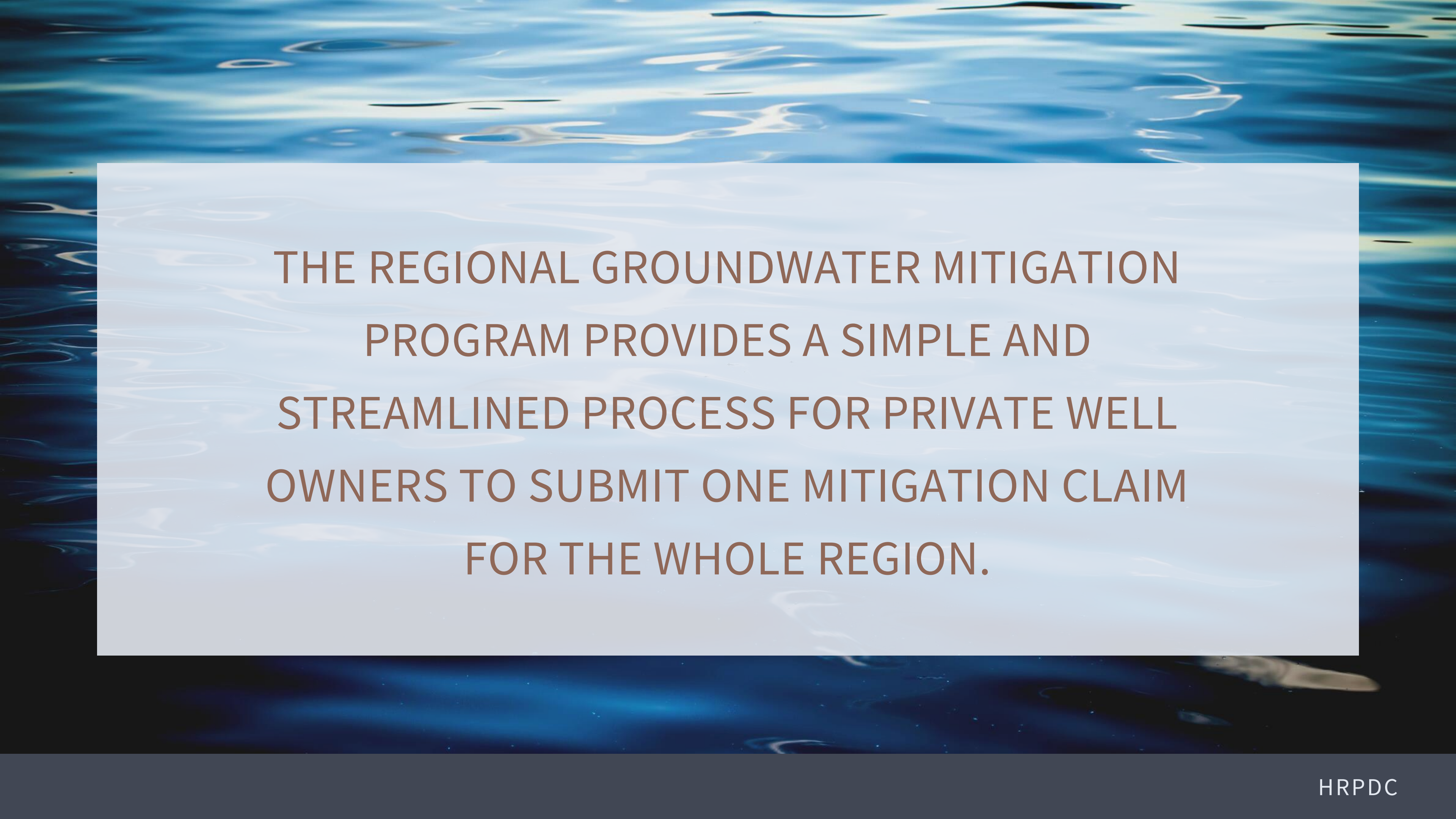
- AUTHORIZED UNDER THE GROUNDWATER MANAGEMENT ACT OF 1992
- ONE OF TWO GROUNDWATER MANAGEMENT AREAS (SHOWN IN BLUE)
- DESIGNATED IN RESPONSE TO RAPIDLY DECLINING GROUNDWATER LEVELS
- COVERS THE ENTIRE HAMPTON ROADS REGION
- GROUNDWATER WITHDRAWALS >300,000 GALLONS PER MONTH REQUIRE A PERMIT



# Groundwater Permits Require Mitigation Program

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- PERMIT HOLDERS WITHIN THE EVGWMA ARE REQUIRED TO HAVE A MITIGATION PROGRAM TO ADDRESS ADVERSE EFFECTS THEIR PUMPING HAS OUTSIDE OF THEIR PROPERTY LINES
- THERE ARE OVER 275,000 HOMES WHO RELY ON PRIVATE WELLS
- PRIOR TO THE PROGRAM, CITIZENS WITH A PRIVATE WELL HAD TO SUBMIT A CLAIM TO EACH LOCALITY



THE REGIONAL GROUNDWATER MITIGATION  
PROGRAM PROVIDES A SIMPLE AND  
STREAMLINED PROCESS FOR PRIVATE WELL  
OWNERS TO SUBMIT ONE MITIGATION CLAIM  
FOR THE WHOLE REGION.

# HOW THE PROGRAM WORKS

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## CLAIM

Private well owner submits a claim to their host locality because the well owner believes municipal pumping has affected their well

## REGIONAL REIMBURSEMENT

Host locality reimburses the private well owner for the percent of water level decline caused by all municipal wells in the region (based on HRPDC analysis)

## HRPDC ANALYSIS

HRPDC staff creates detailed analysis to determine the percentage of water level impacts caused by each locality's municipal wells

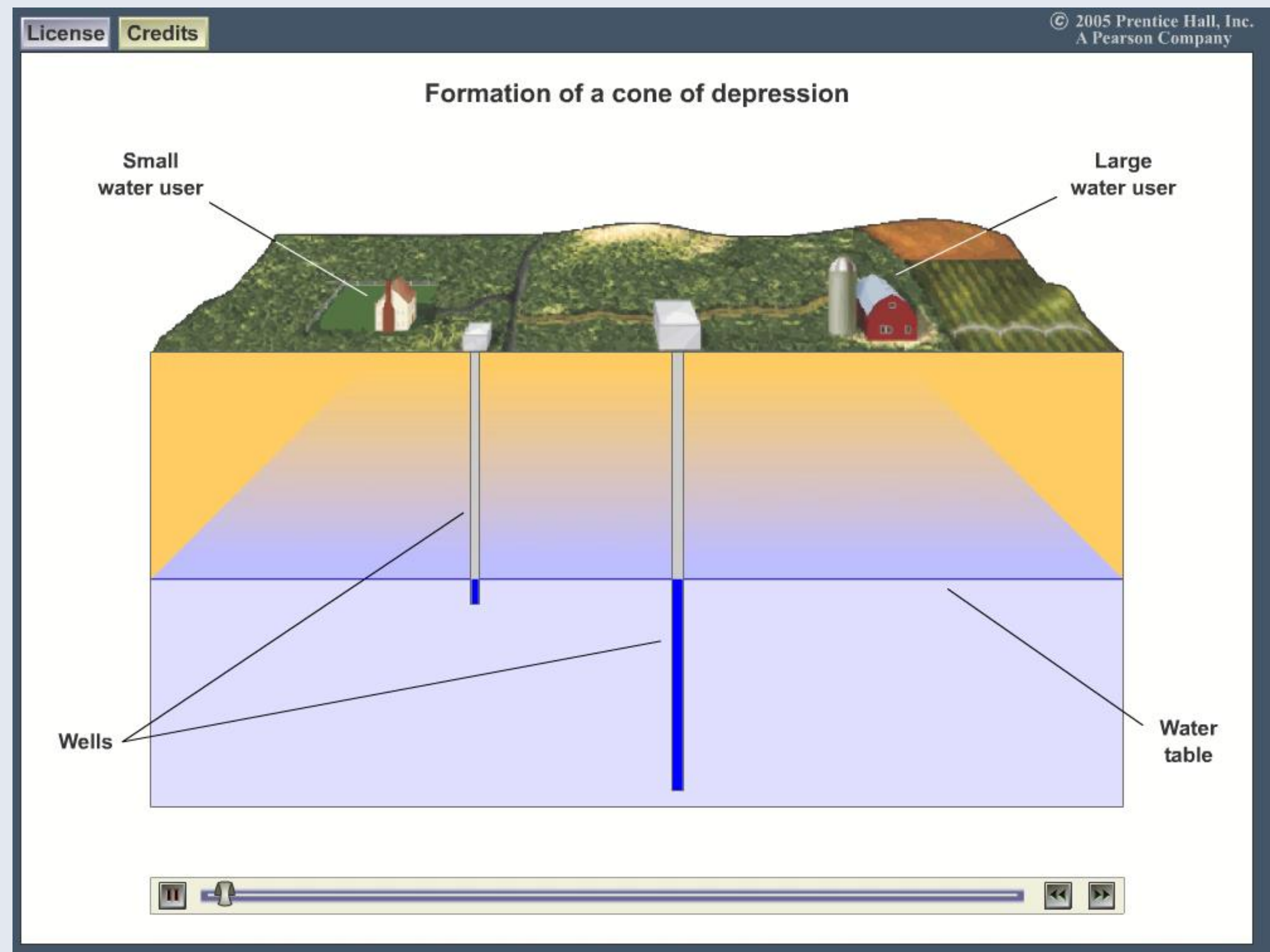
## LOCALITY REIMBURSEMENT

Host locality is reimbursed by other localities that caused a percentage of the water level decline within the private well

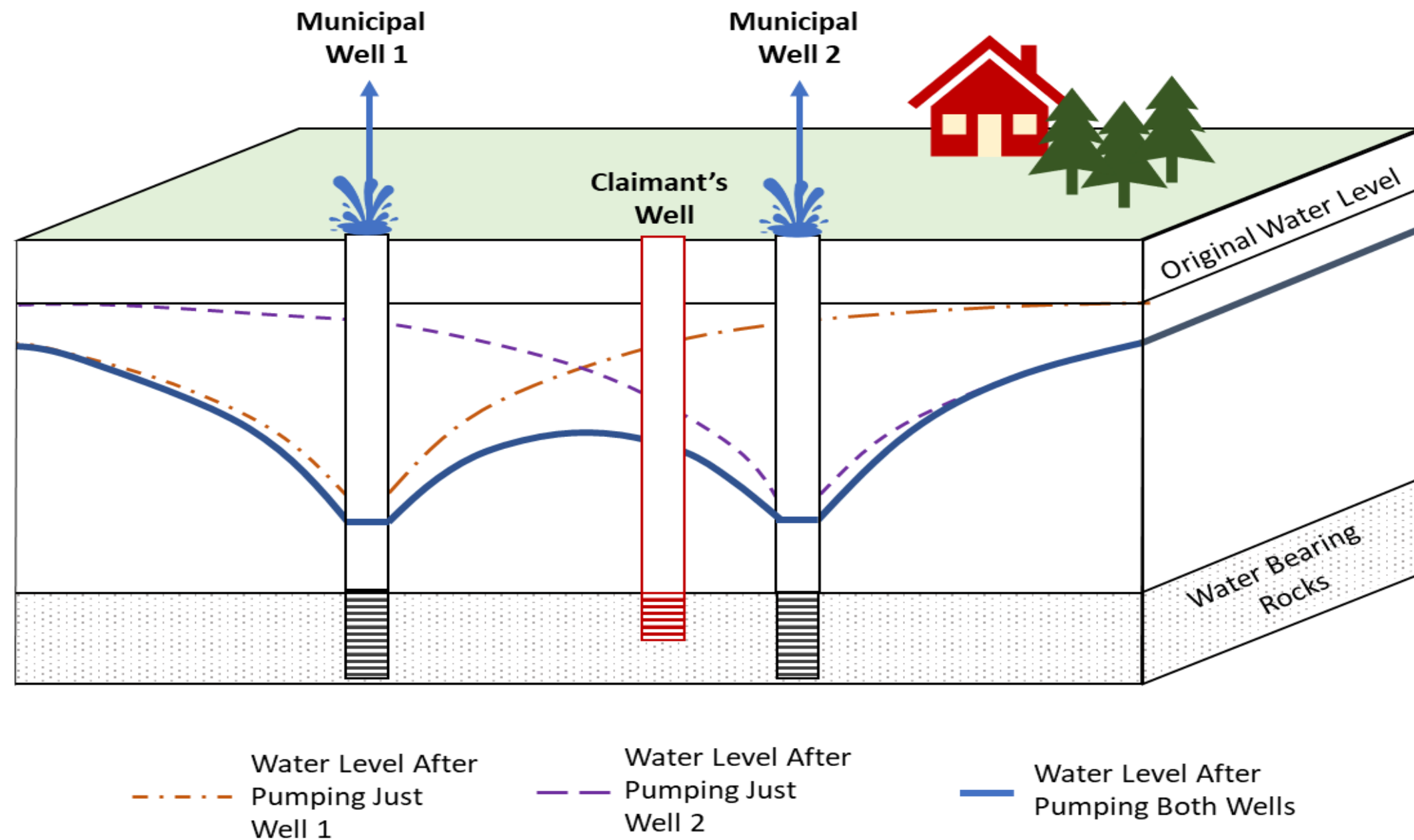


# LARGE WATER USERS CAN IMPACT WATER LEVELS AT NEARBY WELLS

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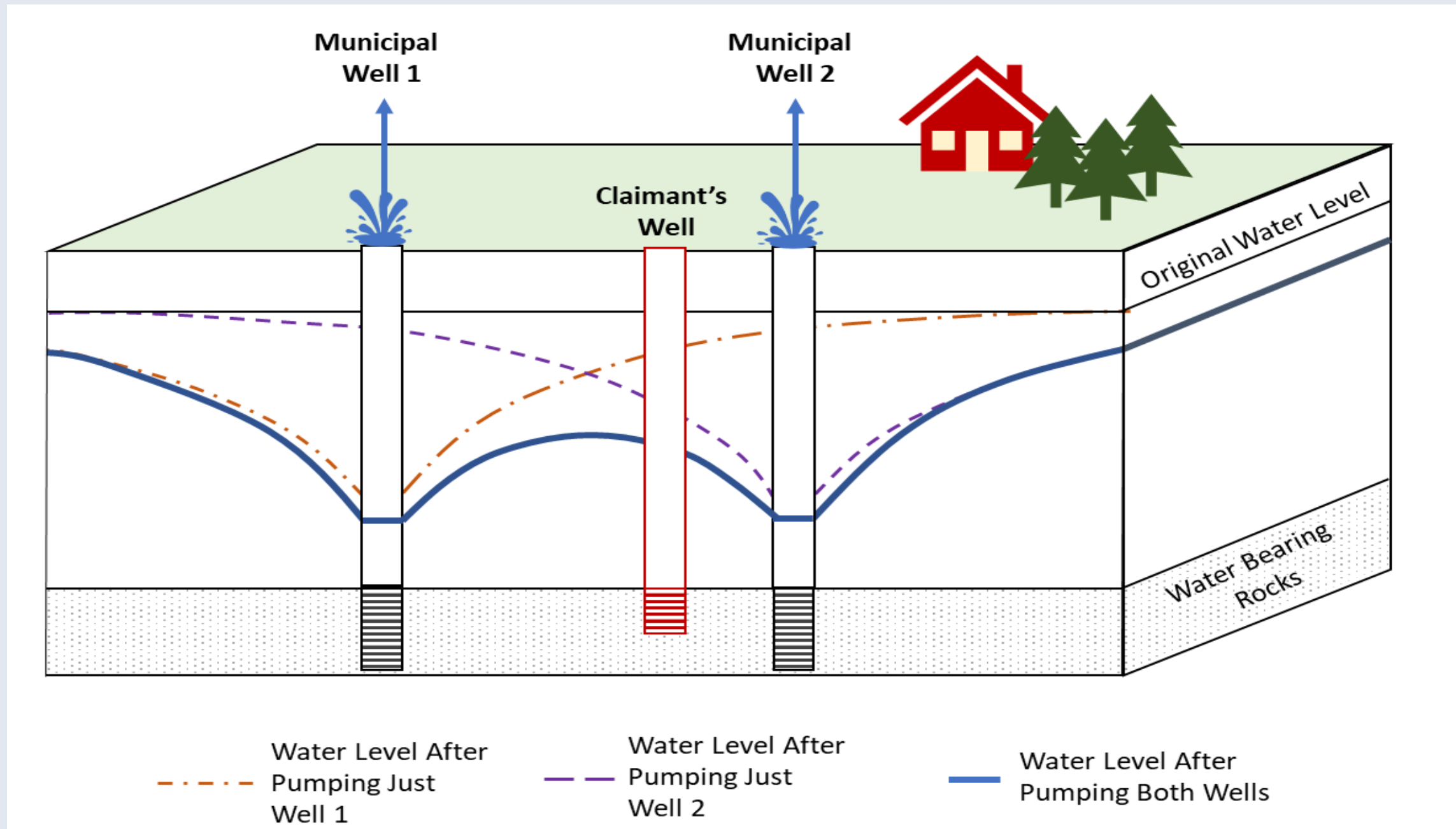


# Locality Contributions



THE TOTAL DECREASE IN WATER LEVELS (BLUE LINE) IS ASSUMED TO BE THE SUM OF THE DECREASE IN WATER LEVELS CAUSED BY INDIVIDUAL PUMPING WELLS (DASHED LINES)

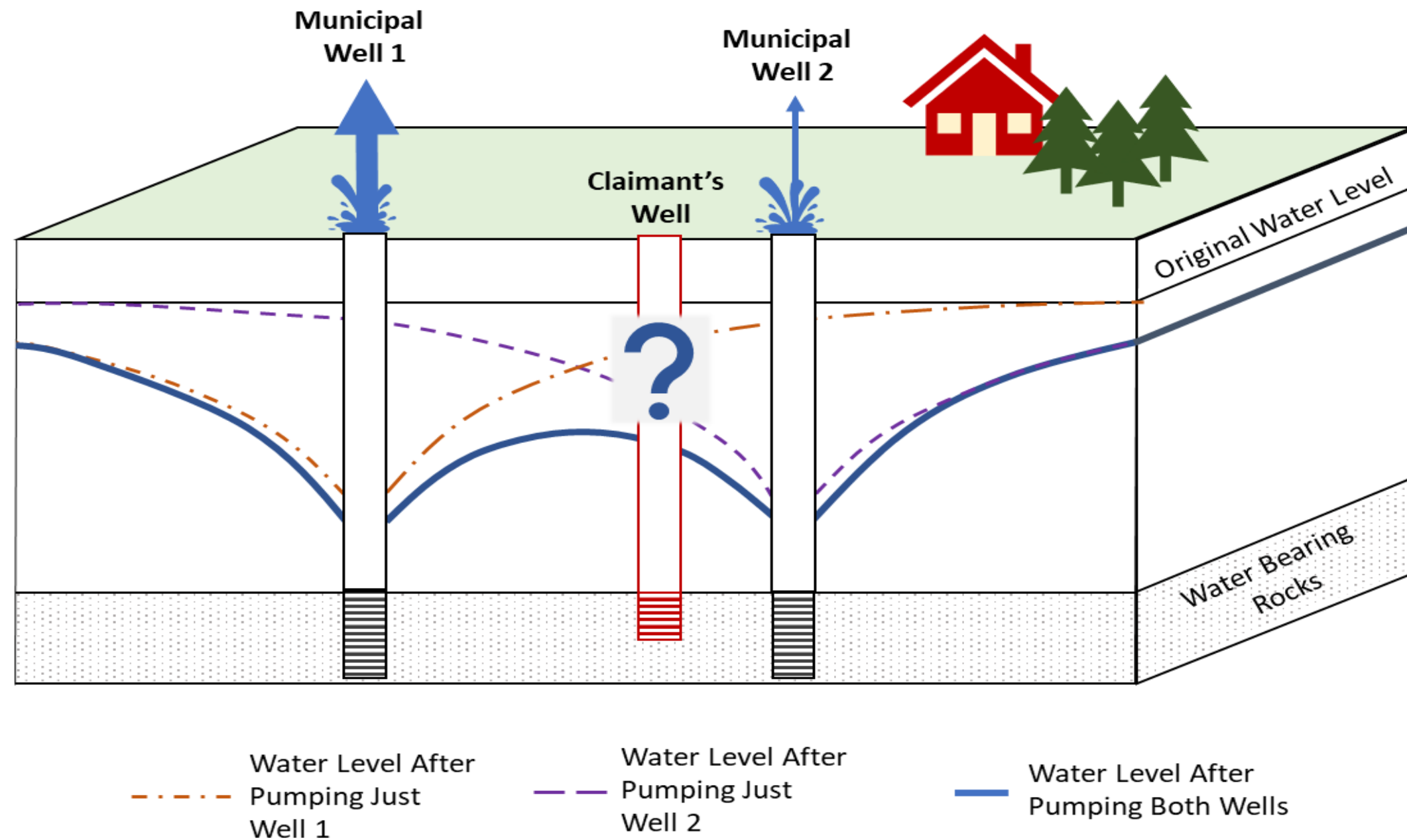
# Locality Contributions (EXAMPLE)



- THE CLOSER A CLAIMANT'S WELL IS TO A PUMPING WELL, THE GREATER EFFECT THAT PUMPING WILL HAVE ON THE CLAIMANT'S WATER LEVELS
- **EXAMPLE:**
  - THE CLAIMANT'S WELL (RED) IS CLOSER TO MUNICIPAL WELL 2, MEANING MUNICIPAL WELL 2 HAS A GREATER EFFECT ON WATER LEVELS WITHIN THE CLAIMANT'S WELL
  - THIS ASSUMES ALL WELLS ARE PUMPING THE SAME AMOUNT



# Locality Contributions (CONT)



- THE REGIONAL PROCESS WILL INCORPORATE THE ACTUAL AMOUNT EACH WELL PUMPS
- THIS ENSURES THAT EACH LOCALITY IS RESPONSIBLE FOR THE APPROPRIATE PORTION OF MITIGATION COSTS



# Resources

- Basics of how a well impacts water levels nearby: [link](#)
- Cone of depression and how larger groundwater users can effect nearby wells: [link](#)
- USGS 3D groundwater cone of depression simulation: [link](#)
  - Project page with more videos: [link](#)
- USGS groundwater education page: [link](#)